WHAT IS CLAIMED IS:

1. A device for monitoring the operation of a mechanical press, comprising:

an at least one signal generator;

a signal conditioner operatively connected to said at least one signal generator, for calculating a value from said at least one generated signal; and

a display operatively connected to said signal conditioner.

2. The device of Claim 1, wherein said at least one signal generator is an accelerometer.

3. The device of Claim 2, wherein said accelerometer monitors press conditions and creates a corresponding signal.

4. The device of Claim 1, wherein said at least one signal generator is attached to the press.

5. The device of Claim 1, wherein said value from said signal conditioner is one selected from the group including: press displacement, press velocity, and press acceleration.

6. The device of Claim 1, wherein said signal conditioner further conditions said calculated value by a peak to peak detector.

7. The device of Claim 1, wherein said signal conditioner further conditions said calculated value with an RMS to DC voltage converter.

8. The device of Claim 1, wherein said display includes a volt meter for displaying said calculated value.

9. The device of Claim 1, wherein said display includes an at least one LED for indicating a vibration severity zone, said vibration severity zone indicating a range for said calculated value.

10. The device of Claim 9, wherein said vibration severity zone is characterized by one selected from the group including: extreme long-term reliability of the press; very good long-term reliability of the press; reliable conditions under caution; and conditions that are not advisable for long-term reliability.

11. The device of Claim 1, further comprising a switch.

12. The device of Claim 11, wherein said switch allows user selection of said calculated value for said display.

13. The device of Claim 1, further comprising a press machine controller for controlling press functions in response to said calculated values from said signal conditioner.

14. The device of Claim 13, wherein said press machine controller includes a programmable logic controller.

15. The device of Claim 13, wherein said press machine controller calculates at least one selected from the group comprising: vibration severity versus time, percent of time within a particular vibration severity zone, total time of press

operation in a zone, quantity of alarms, time of alarms with respect to operation times, percent of operation time versus non-operation time, and percentage of quantity produced versus time fluctuation and quantity of stops.

16. The device of Claim 1, further comprising an alarm signal generator for signaling undesirable operating conditions.

17. The device of Claim 1, further comprising a data storage device for selectively storing digitized output.

18. The device of Claim 1, further comprising a modem for transmitting said calculated values to a remote location.

19. A device attachable to a mechanical press for measuring press conditions, said device comprising:

an at least one accelerometer for measuring press conditions and creating a corresponding signal;

a signal processing means for processing said corresponding signal, said signal processing means connected to said at least one accelerometer to process said corresponding signal, said signal processing means comprising:

an acceleration processing means for calculating a press acceleration value;

a velocity processing means for calculating a press velocity value; and

a displacement processing means for calculating a press displacement value;

a display means for displaying at least one of said calculated values; and

a switch permitting an operator to select one of said calculated values for input to said display means.

20. The device of Claim 19, wherein said display means further displays a vibration severity zone characteristic.

21. The device of Claim 20, wherein said vibration severity zone characteristic is an LED indicator representing the operating conditions of the press.

22. The device of Claim 20, wherein said vibration severity zone characteristic is one selected from the group including: extreme long-term reliability of the press, very good long-term reliability of the press, reliable conditions provided there is cautious operation, and conditions that are not advisable for long-term reliability.

23. The device of Claim 19, wherein said accelerometer measures press conditions during operation of the press.

24. The device of Claim 19, further comprising a press machine controller for controlling press functions in response to said calculated values.

25. The device of Claim 19, further comprising an alarm signal generator for signaling undesirable press operating conditions.

26. The device of Claim 25, wherein said alarm signal generator generates a signal in at least one method selected from the group including: lighting a light at the press machine, paging a selected individual, forwarding the signal to a remote location, forwarding a prerecorded message to a preselected phone number, and forwarding an electronic message to a remote location.

27. The device of Claim 19, further comprising a data storage device for selectively storing at least one of said calculated values and measured conditions.

28. The device of Claim 19, further comprising a modem for transmitting said calculated values to a remote location.

29. A method of monitoring the long-term reliability of a mechanical press, comprising:

generating a unique press vibration severity/reliability zone chart;

monitoring the vibration severity of the press; and

outputting the monitored vibration severity and the corresponding vibration severity/reliability zone.